

## A New Genus and Species of Spirostreptoid Millipeds from the Pacaraima Mountains, British Guiana<sup>1</sup>

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**Abstract:** A new genus, *Gonepityche* and new species *pacaraimae* of spirostrepsid millipeds from the Pacaraima mountains of British Guiana is described.

During the autumn of 1932, Mr. L. D. F. Vesey-Fitzgerald collected diverse zoological materials during the course of his travels through British Guiana and northern Brasil. Included were various Diplopoda which were recently made available for study by Dr. G. Owen Evans of the British Museum (Natural History). Some of the specimens, originating in the little-known Pacaraima Mountains, have been treated separately in a recent paper (Hoffman, 1966); the present report is concerned with a somewhat disjunct spirostreptoid—apparently representing a previously undefined generic group—likewise from the Pacaraima region.

Insofar as the supply of available generic names is concerned, the South American spirostreptids are afflicted with an embarrassment of riches, some genera such as *Nanostreptus* and *Urostreptus* having already accumulated as many as five or six junior synonymy! And so long as the systematics of this group remains in a backward condition (owing chiefly to a scarcity of workers on the Diplopoda), the proposal of new generic names for single species is a somewhat hazardous undertaking. Yet we venture to add yet another monotypic genus to the roster because of the difficulties encountered in trying to place its type species in any existing generic category.

### Family Spirostreptidae

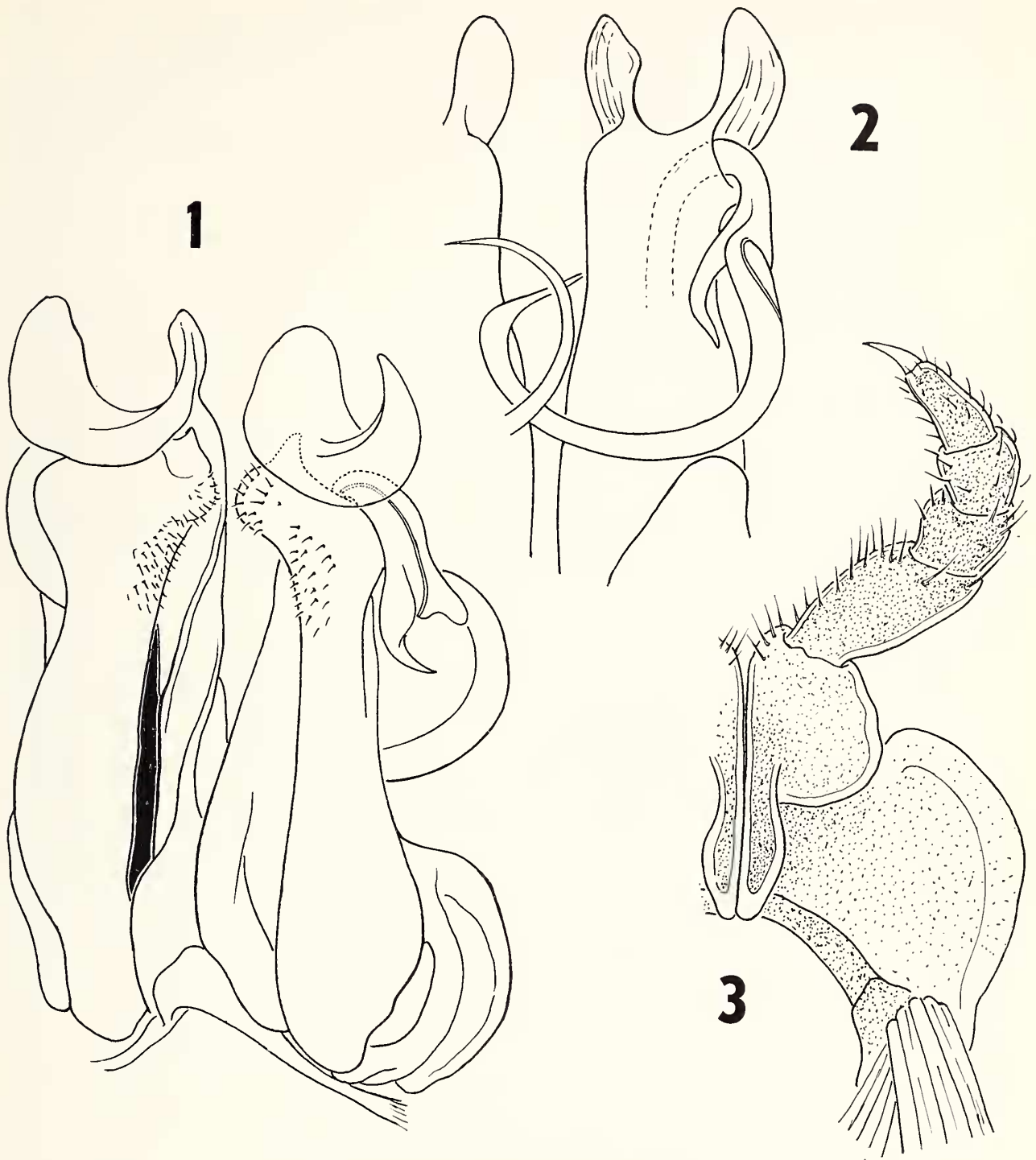
#### ***Gonepityche***, new genus

Type species: *G. pacaraimae*, n. sp., from British Guiana.

Diagnosis: A genus of moderately small, slender, spirostreptoids with the following characteristics at least in the male sex: Antennae short and massive, articles 3–6 broader than long, 5th and 6th with circular sensory pits on the outer distal ends.

Collum not lobed or produced ventrad, but the lateralmost ends strongly reflexed ventromesad below the uppermost oblique ridge; body segments smooth dorsally; the two subsegments similar in diameter, separated by a narrow but distinct stricture, the latter crossed by a large number of small but sharply defined costulations which on the lower sides continue posteriorly to caudal edge of metazonites as fine sharp ridges. Ozopores in normal sequence and location, opening in the metazonite. Preanal segment rugulose dorsally, medially produced into a short, blunt epiproct that covers only the basal half of paraprocts;

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*Gonepityche pacaraimae*, n. sp.

FIG. 1. Gonopods, seen from the front and slightly to one side to show the gonocoel (dark area). FIG. 2. Right gonopod, aboral aspect. FIG. 3. Left side of first legpair of male, oral aspect.

latter smooth and polished, the median elevated rims set off by prominent submarginal grooves; hypoproct transversely elongated, not fused to preceding segment. Legs short, not extending beyond sides of body; 4th and 5th podomeres with ventral pads only on the anteriormost legs. Coxae unmodified. First pair of legs of the usual form, but coxae lacking the usual enlarged setae on the oral side, and prefemoral processes longer than normal for the family and closely appressed to each other.

Gonopods elongate, slender, the telocoxite distally modified into a broad, thin, semicircular lamella which is medially depressed ventrad over the end of the paragonocoel and thus closing the distal end of the gonocoel like a lid or operculum; telopodite with a short, bisinuate spiniform process located well beyond gonocoel opening, distad of this process the telopodite is abruptly twisted about  $180^\circ$ , beyond which it tapers evenly and without modification to the slender, attenuated apex.

***Gonepityche pacaraimae*, new species**

Figs. 1-3

Type specimen: Male holotype (Brit. Mus. [Nat. Hist.] 1966.7:8.1.) from the Pacaraima Mountains, British Guiana; Nov. 12, 1932, L. D. F. Vesey-Fitzgerald, leg. (orig. no. 1147).

Diagnosis: With the characters of the genus.

HOLOTYPE: Adult male, length about 70 mm (broken in several pieces); maximum body diameter, 3.9 mm, body thus about 19 times as long as broad and fairly typical in proportion for the Spirostreptidae.

Coloration altered by long preservation, but apparently in life prozonites yellowish-white, metazonites dark purplish-brown, becoming lighter ventrally. Antennae, legs, and sterna yellowish; front of head light yellowish-brown, darker above, with a dark transverse interoccellar bar.

Head of normal structure and appearance except lower half somewhat broader than usual, essentially as wide as upper; surface evenly convex and smooth. Epicranial suture distinct but short; no trace of interoccellar suture. Labrum, clypeus, and genae continuous, latter not margined laterally. Ocellaria rather small, elongate reniform-triangular, separated by a distance about 2.5 times their length, composed of six rows as follows: 8, 8, 7, 3, 2, 1 = 29. Sides of head produced into an acutely angled ridge running caudad from elevated posterior rim of antennal sockets. Clypeal setae 3-3, labral setae 9-9. Interantennal isthmus broad (1.4 mm), almost half of the antennal length. Antennae short, massive, not extending caudally beyond posterior edge of collum, length about 3.0 mm. 1st article large, hemispherical, globose, articles 2-5 broader than long, abruptly clavate, distally twice as broad as at base, slightly compressed; 6th article narrower than others, slightly longer than wide, oval in cross-section; 7th article in the form of a short disk, with four sensory cones. 5th and 6th articles each with a prominent, circular sensory pit on the outer distal end.

Collum narrowed toward ends, latter set off by an oblique ridge beginning at level of ocellaria; ends of collum below this ridge with about four much smaller grooves, and rather abruptly turned inward at a distinct angle. Surface of collum smooth and polished. Second segment with a distinct ventrolateral ridge similar to that of collum.

Body segments generally similar to each other, basically parallel-sided but metazonites slightly greater in diameter than prozonites, the two subsegments separated by a very prominent deep sulcus extending entirely around the pleuroterga, on the lower sides the metazonites are ornamented with numerous transverse fine ridges extending from caudal edge forward to the sulcus; higher on the body the ridges disappear, leaving only the very anteriormost ends as a series of small but quite prominent light-colored "bridges" crossing the sulcus throughout its course. Surface of both subsegments similar, the texture essentially smooth and polished, but with a profusion of microscopic, elongate oval punctations.

Ozopores beginning at the 6th segment; pores moderately distinct, opening well behind the sulcus in the metazonite.

Posterior end of body normal in appearance, last segment middorsally pitted and wrinkled more prominently than elsewhere on the body and produced into a short, bluntly triangular epiproct covering only the bases of the paraprocts. Latter large, smooth, and convex, with

a broad, deep depression setting off the prominently elevated mesial margins. Hypoproct very broadly triangular in outline, not fused to the preceding segment.

Sterna completely smooth, without trace of transverse striation. Legs very short, completely invisible from above body when extended laterally; podomeres virtually hairless except for scattered macrosetae on the ventral sides of the distalmost, and several dorsally located near the tarsal claws. Legs normal in structure, without modification except for rather weakly developed eversible pads on the ventral sides of the 4th and 5th joints of legs of the anterior half of the body. Tarsal claws about 2/3ds as long as tarsus on anterior legs, but becoming much shorter posteriorly on the body.

Lower ends of 7th segment produced into small, rounded, posteriorly directed lobes formed chiefly from the prozonite.

Gonopods composed on the normal elements (Figs. 1-2). Coxites without basal processes on the median side, connected by a small but distinct subtriangular sternum, its lateral ends prolonged beyond base of paracoxites. Gonocoel partly open as seen in an oblique anterior-median aspect; paragonocoel long, slender, distally enlarged and lobed both medially and laterally, its terminal fourth set with numerous fine short setae. Telocoxite longer than paragonocoel, slightly twisted caudolaterally, distally expanded into a large, semicircular lamella, this structure medially depressed over end of paragonocoel which it covers like a lid or operculum. Telopodite slender, simple in structure, with a short, curved femoral spine originating some distance beyond origin of the exospermite region, beyond the femoral spine there is a slight constriction and torsion, distad of which the telopodite terminates as a long, attenuated, simple falcate blade curving behind the gonopod and partly around it on the medial side. No trace of posterior gonopods evident.

First legs of the form shown in Figure 3; a narrow transverse sternum is evident, with the usual enlarged coxae, the latter glabrous; prefemora with unusually long, contiguous ventrally directed processes that fit into a deep concavity of the gnathochilarial mentum.

**DISCUSSION:** Insofar as we are willing to guess at this time, the affinities (or at least similarities) of this new form appear to lie with the several species of *Brasilostreptus*. The community of shared traits includes small body size, general pattern of the gonotelopodite, and superficial similarity of the 1st leg pair of the males. *Brasilostreptus* has heretofore been monotypic with *B. gracilis* Verhoeff, but the study of recently-acquired material suggests that some further Brazilian species are referable thereto, and a revision of the genus is now in progress. **G. pacaraimae** differs at least in the ornamentation of the transverse suture, in the formation of the gonopod telocoxite, and in the closely appressed prefemoral processes of the first pair of legs, from the species now provisionally referred to *Brasilostreptus*.

#### Literature Cited

- HOFFMAN, RICHARD L. 1966. Polydesmoid Diplopoda from the Pacaraima Mountains. Journ. Zool. (Proc. Zool. Soc. London), **148**: 540-553, figs. 1-5.

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